

APPENDIX A FEEDBACK AND CONTINUOUS IMPROVEMENT INSPECTION CRITERIA AND ACTIVITIES

Inspection Criteria #1: DOE Headquarters Line Management Oversight - DOE

Headquarters line management has established and implemented effective oversight processes that evaluate the adequacy and effectiveness of field element assurance systems and DOE oversight processes. DOE Headquarters assurance system programs and processes are in accordance with the policy and key elements outlined in DOE Policy 226.1, *Department of Energy Oversight Policy*; DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*, Attachment 3; quality assurance requirements (as stated in 10 Code of Federal Regulations (CFR) 830, Subpart A, or other applicable regulations), and applicable DOE directives¹. DOE Headquarters line management oversight processes have been designed that are focused on the DOE field elements and also look at contractor activities to evaluate the implementation and effectiveness of field element line management oversight. To promote efficiency, DOE field organizations will perform most onsite operational awareness and assessment activities on behalf of the responsible DOE line management organization. However, DOE Headquarters line management personnel must regularly review the results of DOE field organization oversight and other information to maintain awareness of site conditions and trends and to determine the effectiveness of field line management oversight processes. DOE Headquarters line management must establish appropriate oversight activities to review the adequacy of the scope and implementation of field office self-assessment activities, field office oversight activities, and field office assurance systems.

- 1) DOE Headquarters line management has established a baseline line management oversight program that ensures that DOE Headquarters and field element line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards, risks and resource allocation, provide direction to the field element, and evaluate field element performance.
- 2) DOE Headquarters line oversight program includes assessments, performance monitoring and improvement, and assessment of field element assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments. Deficiencies in programs or performance identified during assessment activities must be communicated to the field element for resolution through a structured issues management process.
- 3) Oversight must include structured and rigorous processes for validating the accuracy of information collected during headquarters assessments. DOE Headquarters line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.
- 4) DOE Headquarters line management must regularly assess the effectiveness of field element issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE Headquarters line management must also evaluate field element processes for communicating information, including dissenting opinions up the management chain.

¹ For activities and programs at Government-owned and Government-operated facilities and sites that are not under the cognizance of a DOE field organization, DOE Headquarters program offices will establish and implement comparably effective oversight processes consistent with requirements for the contractor assurance system (DOE O 226.1, Attachment 2, Appendix A) and DOE line management oversight process (DOE O 226.1, Attachment 3).

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- 5) DOE Headquarters assesses the effectiveness of DOE-wide lessons learned processes to improve all work processes (e.g., safety, security, and business operations) and associated management systems.
- 6) DOE Headquarters line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE Headquarters assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.
- 7) DOE Headquarters line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), headquarters procedures/manuals, and performance objectives.
- 8) DOE Headquarters line management regularly assesses site assurance systems to determine an appropriate level of overlap and redundancy of DOE Headquarters and field element oversight. The effectiveness of the field element and contractor assurance systems, the hazards at the site/activity, and the degree of risk are factors in determining the scope and frequency of DOE Headquarters line management oversight activities.
- 9) DOE Headquarters line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.
- 10) DOE Headquarters line management has established and implemented formal processes for ensuring requirements and performance expectations are established and communicated through formal contractual mechanisms to the contractor. Performance expectations are established through the development and approval of required program documents such as quality assurance program (QAP), integrated system management (ISM), integrated safeguards and security management (ISSM), etc. Headquarters line management periodically reviews established contractor performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.
- 11) DOE Headquarters line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes provide sufficient technical information to allow informed decision-making by Headquarters line managers, and include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for Headquarters oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.
- 12) DOE Headquarters line management periodically reviews the results of field oversight organization oversight and other information to maintain awareness of site conditions and trends. Headquarters line management oversight program activities include elements for reviewing the adequacy and scope of field element self-assessment activities, field element oversight activities, and field element assurance systems.
- 13) Central Technical Authorities (CTAs) periodically monitors, participates, and reviews the results of field oversight organization oversight and other information for high consequence nuclear operations to maintain operational awareness and to ensure the Department's nuclear safety policies and requirements are adequate and properly maintained.
- 14) DOE Headquarters line management (unless formally delegated) annually reviews and approves contractor assurance system program descriptions updates.

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- 15) DOE Headquarters initially approves and, thereafter, annually reviews and approves integrated safety management system description updates, unless approval authority is delegated to the DOE field element.
- 16) DOE Headquarters line management performs periodic reviews of the contractor assurance system program and processes for consistency across the DOE complex and ensures that they reflect industry best practices.
- 17) DOE headquarters organizations must perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.

Review Approach: Review appropriate oversight directives, policies, program descriptions, procedures, instructions, and guidance. Review assessment activity planning documents and schedules. Interview DOE managers and staff to determine how assessments are planned and performed and how they are used to improve performance. Review documentation related to deficiencies (e.g., procedures, completed assessments, causal analyses and corrective action plans, verification/validation records, and effectiveness determinations). Review trend analysis and performance indicator reports and evaluate the analyses, conclusions, and any related corrective actions. Review training and qualification records and interview personnel to determine the adequacy in establishing and enhancing competence of oversight personnel.

Inspection Lines of Inquiry (DOE Headquarters):

- 1) **Oversight Program** - Are the DOE Headquarters and field element line management oversight programs, plans, processes and schedules compliant with DOE O 226.1, coordinated, documented, risk informed and historically aware, while ensuring significant deficiencies are identified, documented, communicated, evaluated, tracked and appropriately resolved?
 - a) Are the roles, responsibilities, and authorities for quality assurance documented in Headquarters QAPP in accordance with DOE Order 414.1C, *Quality Assurance*?
 - b) Are responsibilities for implementing Headquarters line oversight and self-assessment plans formally assigned and documented?
 - c) Has DOE Headquarters line management established and communicated appropriate criteria for delegation and coordination of performance assurance program functions to DOE field elements and for determining the effectiveness of DOE Headquarters, DOE field elements and contractor programs, management systems, and assurance systems?
 - i) Do the delegation and coordination criteria include requirements that ensure the Headquarters and field element performance assurance programs, when taken together, comprehensively encompass the requirements of DOE O 226.1, Attachment 3, and provide sufficient overlap to facilitate Headquarters assessment of DOE field element performance assurance programs and activities?
 - ii) Do the criteria include consideration of previous assessment results; effectiveness of corrective actions and self-assessments; and evidence of sustained management support for site programs, management and assurance systems?
 - iii) Is the criteria based on requirements and performance objectives relevant to the site and site mission (e.g., laws, regulations, national standards, DOE directives, DOE-approved plans and program documents, site-specific procedures/manuals, and criteria review and approach documents), headquarters procedures/manuals, and other performance objectives, including those required for:

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- (1) Authorization Basis;
 - (2) Quality Assurance;
 - (3) Integrated Safety Management (including the environmental management system);
 - (4) Integrated Safeguards and Security Management;
 - (5) Cyber Security;
 - (6) Emergency Management;
 - (7) Business operations;
 - (8) Self assessments; and,
 - (9) Contractually mandated requirements, including performance indicators, measures, objectives, and criteria?
- d) Do DOE Headquarters line management oversight programs establish effective processes for performance assessment and monitoring of the scope and implementation of delegated functions addressed by DOE field element line management performance assurance programs and activities, to:
- i) Ensure contractor compliance with requirements;
 - ii) Ensure the adequacy of contractor assurance systems;
 - iii) Ensure contractor performance in accordance with the provisions of their contracts;
 - iv) Ensure deficiencies are brought to the attention of contractor management and addressed in a timely manner;
 - v) Ensure compliance with requirements applicable to DOE line management; and,
 - vi) Ensure the establishment and implementation of oversight processes for monitoring and ensuring continuous improvement in their internal operations and required activities, such as reviewing and approving safety analysis reports and security plans, performing emergency management functions, adjudicating security clearances, implementing computer security programs at DOE office buildings, operating classified and sensitive information identification and protection programs, and operating employee concerns programs and other such functions?
- e) Do DOE Headquarters line management oversight programs and processes for performance assessment and monitoring of the scope and implementation of the contractor's programs and activities, require:
- i) The overall scope, content, and frequency of assessments included in the coordinated DOE Headquarters and field element line management oversight program are based on the assessed effectiveness of DOE line management and contractor assurance systems, the hazards at the site/activity, and the degree of risk involved;
 - ii) A minimum DOE line management baseline oversight program is established and implemented (which includes planned, coordinated, and scheduled assessments by DOE Headquarters and/or field elements) that focuses resources on selected assessments, operational awareness activities, performance measure monitoring and improvement, and assessment of assurance systems to enable DOE line management to understand the hazards and risks of activities;
 - iii) Regular assessment of site assurance systems are conducted to determine the appropriate level of overlap and redundancy of DOE Headquarters and field element line management oversight;
 - iv) Assessment activities are coordinated with site assurance system activities to promote efficient use of resources while maintaining an adequate baseline oversight program that includes sufficient standalone assessments of contractor management and assurance systems and site programs;

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- v) The results of external organization reviews and the effectiveness of assurance systems are considered in determining DOE line management oversight priorities and the scope and frequency of oversight activities, while still implementing the defined minimum baseline oversight process;
 - vi) Oversight activity frequency and/or depth are increased based on performance deficiencies or events, or decreased to reflect sustained effective site performance;
 - vii) More frequent assessments are required on areas needing improvement in site programs, management systems, or assurance systems (e.g., insufficient rigor or comprehensiveness in existing systems);
 - viii) Appropriate “for cause” reviews, reviews pursuant to other requirements in this Order, discretionary assessments, or for support to field elements during assessments are conducted, where necessary;
 - ix) Additional oversight rigor is required for high consequence activities that include Headquarters awareness and assessment activities, such as instituting a Central Technical Authorities (CTA) for core nuclear safety functions;
 - x) A balance is maintained between reviews of documentation (e.g., plans, procedures, and records) and adequacy of implementation through performance tests and observation of actual work activities at the facilities; and
 - xi) A similar balance is maintained between evaluations of systems (such as the DOE integrated safety management system and integrated safeguards and security management system), programs (e.g., radiation protection), facilities, and implementation of individual elements of those systems (e.g., specific work activities)?
- f) Do the DOE Headquarters line management oversight programs require the CTA to:
- i) Maintain awareness of the content of applicable DOE line oversight programs, plans, and processes, and contractor assurance systems by monitoring, evaluation and trend analyses, and by participation in oversight activities;
 - ii) Maintain awareness of the state of implementation of these line management programs, plans, and processes, and contractor assurance systems by monitoring associated assessment reports;
 - iii) Conduct and participate in various DOE Headquarters line oversight review activities as defined in the associated Headquarters oversight programs;
 - iv) Communicate identified issues and trends to line management;
 - v) Provide advice concerning technical solutions or options; and
 - vi) Be able to follow up to ensure proper closure or implementation?
- g) Do DOE Headquarters line management oversight programs require monitoring and self-assessment of Headquarters line management programs and activities, including requirements for:
- i) A structured, documented self-assessment program to confirm compliance with DOE requirements for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations.
 - ii) Establishment and implementation of oversight processes for monitoring and ensuring continuous improvement in internal operations and required activities, such as reviewing and approving safety analysis reports and security plans, performing emergency management functions, adjudicating security clearances, implementing computer security programs at DOE office buildings, operating classified and sensitive information identification and protection programs, and operating employee concerns programs and other such functions?
 - iii) Performance of self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and

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- training programs) to assess whether requirements and management expectations are met.
- iv) Adjusting the frequency of assessments to be commensurate with the hazards and risks related to the activity being assessed. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.
 - h) Do DOE Headquarters line management oversight programs and processes require results of oversight activities to be appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
 - i) Are structured and rigorous processes required for validating the accuracy of information collected during assessments?
 - ii) Are deficiencies in programs or performance identified during assessment activities required to be communicated to appropriate managers for resolution through a structured issues management process?
 - iii) Are dissenting opinions required to be documented and appropriately communicated with assessment results?
 - iv) Are processes for resolution of disputes about oversight findings and other significant issues established, including where necessary, approved processes for interpretation of requirements?
 - v) Are effective processes established for independent technical reviews of significant issues?
 - vi) Are effective processes established for communicating line management oversight results and other issues up and down the DOE line management chain, using a graded approach based on the hazards and risk?
 - vii) Are findings required to be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
 - viii) Is DOE line management required to verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed?
 - ix) Are deficiencies required to be analyzed both individually and collectively to identify causes and prevent recurrences?
 - i) Are DOE Headquarters line management oversight programs and the annual schedule of planned assessments and focus areas documented and approved?
 - j) Do DOE Headquarters line management oversight programs define the process for modifications of the annual oversight activity schedule and for DOE line management approval in response to changing circumstances?
 - k) If DOE Headquarters and field element line management oversight processes are implemented as written, would DOE Headquarters and field element line management maintain sufficient knowledge of site and contractor activities to make informed decisions about hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance?
- 2) **Training & Qualification** – Are DOE Headquarters staff adequately trained and qualified to perform assigned oversight activities?
- a) Has DOE line management defined the requirements for experience, knowledge, skills and abilities for personnel implementing the assurance system elements?
 - b) Has DOE line management established, maintained, and implemented appropriate qualification standards for personnel with oversight responsibilities?
 - c) Has DOE line management provided and ensured completion of appropriate training for personnel implementing headquarters assurance system elements?

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- 3) **Implementation of Program Responsibilities** – Does DOE Headquarters line management maintain sufficient knowledge of DOE field element line management, site and contractor programs and activities to make informed decisions about hazards, risks and resource allocation, to evaluate DOE field element line management and contractor performance, and to provide direction?
- a) Were the following assessments required by DOE O 226.1 performed; what were the results; how were the insights used; and how effective were the corrective actions?
- i) Do DOE Headquarters line management personnel regularly review the results of DOE field organization and contractor oversight activities to maintain awareness of site conditions and trends and to determine the effectiveness of field line management oversight processes?
 - ii) Does DOE Headquarters line management periodically review established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness?
 - iii) Does DOE Headquarters line management (unless formally delegated) annually review and approve contractor assurance system program descriptions updates?
 - iv) Does DOE Headquarters initially approve and, thereafter, annually review and approve integrated safety management system description updates, unless approval authority is delegated to the DOE field element?
 - v) Do Headquarters managers monitor field element performance and assess whether performance expectations are met; that field elements are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions?
 - vi) Does DOE Headquarters line management regularly assess the effectiveness of field element issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback)?
 - vii) Does DOE Headquarters line management evaluate field element processes for communicating information, including dissenting opinions up the management chain?
 - viii) Does DOE Headquarters line management regularly assess field element assurance systems to determine the appropriate level of overlap and redundancy of DOE Headquarters and field element oversight?
 - ix) Are the effectiveness of the field element assurance system; the hazards at the site/activity; and the degree of risk factors in determining the scope and frequency of the combined DOE Headquarters and field element line management oversight program assessment activities?
 - x) Are program and performance deficiencies brought to the attention of appropriate management and addressed in a timely manner?
 - xi) Do DOE organizations perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met, and to identify opportunities for improvement?
 - xii) Are continuous improvement mechanisms (e.g., corrective action processes) in place to improve the effectiveness and efficiency of oversight programs and site operations?
 - xiii) Does DOE Headquarters line management perform periodic reviews of the field element assurance system programs and processes for consistency across the DOE complex and ensure that they reflect industry best practices?

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- xiv) Does the DOE Headquarters regularly assess the effectiveness of DOE-wide lessons learned processes to improve all work processes (e.g., safety, security, and business operations) and associated management systems?
 - xv) Do Central Technical Authorities (CTAs) periodically monitor, participate in and review the results of field oversight organization oversight and other information for high consequence nuclear operations to maintain operational awareness and to ensure the Department's nuclear safety policies and requirements are adequate and properly maintained?
 - b) Are managers, supervisors, and workers held accountable for assigned performance assurance responsibilities?
 - c) Are oversight program responsibilities appropriately implemented?
 - d) Is the coordinated DOE Headquarters and field element line management oversight program risk informed and historically aware while ensuring significant deficiencies are identified, documented, communicated, evaluated, tracked and appropriately resolved?
 - e) Is the coordinated DOE Headquarters and field element line management oversight program effective in ensuring that site operations are performed safely, securely, and in compliance with applicable requirements?
- 4) **Oversight Results and Corrective Action Process** – Are the results of DOE Headquarters line management oversight activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are structured and rigorous processes used for validating the accuracy of information collected during assessments?
 - b) Are deficiencies in programs or performance identified during assessment activities communicated to appropriate management for resolution through a structured issues management process?
 - c) Does DOE Headquarters line management have effective processes for communicating line oversight results and other issues up and down the management chain?
 - d) Do the DOE Headquarters line management oversight processes provide sufficient technical basis to allow senior DOE headquarters managers to make informed decisions?
 - e) Are findings tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
 - f) Does DOE Headquarters line management verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE Headquarters assessments or reviews are closed?
 - g) Are deficiencies analyzed both individually and collectively to identify causes and prevent recurrences?

Inspection Criteria #2: DOE Field Element Line Management Oversight - DOE field element line management has established and implemented effective oversight processes that evaluate the adequacy and effectiveness of contractor assurance systems and DOE oversight processes. DOE field element assurance system programs and processes are in accordance with the policy and key elements outlined in DOE Policy 226.1, *Department of Energy Oversight Policy*; DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*, Attachment 3; quality assurance requirements (as stated in 10 Code of Federal Regulations (CFR) 830, Subpart A, or other applicable regulations); and applicable DOE directives.

- 1) DOE field element line management has established a baseline line management oversight program that ensures that DOE field element line management maintains sufficient knowledge of site and contractor activities to make informed decisions concerning hazards,

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- risks and resource allocation, provide direction to contractors, and evaluate contractor performance.
- 2) DOE field element line oversight program includes assessments, operational awareness activities, performance monitoring and improvement, and assessment of contractor assurance systems. Documented program plans have been established that define oversight program activities and annual schedules of planned assessments and focus areas for operational awareness. Operational awareness activities must be documented either individually or in periodic (e.g., weekly or monthly) summaries. Deficiencies in programs or performance identified during operational awareness activities must be communicated to the contractor for resolution through a structured issues management process.
 - 3) Oversight must include structured and rigorous processes for validating the accuracy of information collected during assessments. DOE field element line management requires that findings must be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans.
 - 4) DOE field element line management must regularly assess the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback). DOE field element line management must also evaluate contractor processes for communicating information, including dissenting opinions, up the management chain.
 - 5) DOE field elements regularly assess the effectiveness of DOE-wide lessons learned processes to improve all work processes (e.g., safety, security, and business operations) and associated management systems.
 - 6) DOE field element line management must verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed, and requires that deficiencies are analyzed both individually and collectively to identify causes and prevent recurrences.
 - 7) DOE field element line management has established appropriate criteria for determining the effectiveness of site programs, management systems, and contractor assurance systems, and includes consideration of previous assessment results, effectiveness of corrective actions and self-assessments, and evidence of sustained management support for site programs and management and assurance systems. Review criteria are based on requirements and performance objectives (e.g., laws, regulations, and DOE directives), site-specific procedures/manuals, and other contractually mandated requirements and performance objectives.
 - 8) DOE field element line management regularly assesses site assurance systems to determine the appropriate level of overlap and redundancy of DOE Headquarters and field element oversight. The effectiveness of the contractor assurance system, the hazards at the site/activity, and the degree of risk are factors in determining the scope and frequency of DOE field element line management oversight activities.
 - 9) DOE field element line management has established and maintained appropriate qualification standards for personnel with oversight responsibilities, and a clear, unambiguous line of authority and responsibility for oversight.
 - 10) DOE field element line management has established and implemented formal processes for ensuring requirements and performance expectations are established and communicated through formal contractual mechanisms to the contractor. Performance expectations are established through the development and approval of required program documents such as quality assurance program (QAP), integrated system management (ISM), integrated safeguards and security management (ISSM), etc. Line management periodically reviews established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness.

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- 11) DOE field element line management has established effective processes for communicating line oversight results and other issues up the DOE line management chain, using a graded approach based on the hazards and risks. Established processes provide sufficient technical information to allow informed decision-making by line managers, and include provisions for communicating and documenting dissenting opinions. Formal structured processes for resolving disputes for oversight findings and other significant issues have been implemented, and include provisions for independent technical reviews for significant findings.
- 12) DOE field element line management annually reviews and approves contractor assurance system program descriptions updates (if formally delegated, otherwise reviews and forwards to Headquarters for approval).
- 13) DOE field element initially approves and, thereafter, annually reviews and approves integrated safety management system description updates (if formally delegated, otherwise reviews and forwards to Headquarters for approval).
- 14) DOE field element line management monitors contractor performance and assesses whether performance expectations are met; that contractors are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions. Responsibilities for line oversight and self-assessment are assigned and managers, supervisors, and workers are held accountable for performance assurance activities. Deficiencies must be brought to the attention of contractor management and addressed in a timely manner.
- 15) DOE field elements must have a structured, documented self-assessment program for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations. DOE field elements must perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, facility representative programs, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.
- 16) An effective employee concerns program been established and implemented in accordance with DOE Directives that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls.

Review Approach: Review appropriate oversight directives, policies, program descriptions, procedures, instructions, and guidance. Review operational awareness and assessment activity planning documents and schedules. Review operational awareness data and assessment reports for adequacy in selected areas. Interview DOE managers and staff to determine how assessments are planned and performed and how they are used to improve performance. Review documentation related to deficiencies (e.g., procedures, completed assessments, employee concern case files, causal analyses and corrective action plans, verification/validation records, and effectiveness determinations). Review trend analysis and performance indicator reports and evaluate the analyses, conclusions, and any related corrective actions. Review training and qualification records and interview personnel to determine the adequacy in establishing and enhancing competence of oversight personnel.

Inspection Lines of Inquiry (DOE Field Element):

- 1) Oversight Program - Are the DOE Headquarters and field element line management oversight programs, plans, processes and schedules compliant with DOE O 226.1, coordinated, documented, risk informed and historically aware, while ensuring significant deficiencies are identified, documented, communicated, evaluated, tracked and appropriately resolved?

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- a) Are the roles, responsibilities, and authorities for quality assurance documented in DOE field element Quality Assurance Plans in accordance with DOE Order 414.1C, *Quality Assurance*?
- b) Are responsibilities for implementing field element line oversight and self-assessment plans formally assigned and documented?
- c) Are the requirements of the Headquarters QAP reflected in a site-level QAP?
- d) Has DOE field element line management established and communicated appropriate criteria for determining the effectiveness of DOE field element and contractor programs, management systems, and assurance systems?
 - i) Do the criteria include consideration of previous assessment results; effectiveness of corrective actions and self-assessments; and evidence of sustained management support for site programs, management, and assurance systems?
 - ii) Is the criteria based on requirements and performance objectives relevant to the site and site mission (e.g., laws, regulations, national standards, DOE directives, DOE-approved plans and program documents, site-specific procedures/manuals, and criteria review and approach documents), DOE procedures/manuals, and other performance objectives, including those required for:
 - (1) Authorization Basis;
 - (2) Quality Assurance;
 - (3) Integrated Safety Management (including the environmental management system);
 - (4) Integrated Safeguards and Security Management;
 - (5) Cyber Security;
 - (6) Emergency Management;
 - (7) Business operations;
 - (8) Self assessments; and,
 - (9) Contractually mandated requirements, including performance indicators, measures, objectives, and criteria?
- e) Do DOE field element line management oversight programs include effective processes for performance assessment and monitoring of the scope and implementation of contractor activities, management programs and assurance systems, including:
 - i) Operational Awareness Activities, the majority of which are performed by the DOE field element that include:
 - ii) Routine day-to-day monitoring of work performance through facility tours/walk-through, work observation, document reviews, meeting attendance and participation, and ongoing interaction with contractor workers, support staff, and management;
 - iii) Rigorous review and critique of contractor processes and performance in identifying, evaluating, and reporting events and safety issues that are required to be reported by laws, regulations, or DOE directives to determine whether issues are properly screened, evaluated, and reported;
 - iv) Evaluation and monitoring of the contractor evaluations and corrective actions for events and issues and assesses whether effective recurrence controls are identified and implemented;
 - v) Documentation of operational awareness activities either individually or in periodic (e.g., weekly or monthly) summaries; and
- f) Assessments of Facilities, Operations, and Programs to ensure contractor compliance with requirements that include:
 - i) Planned and scheduled assessments of effectiveness based on DOE and external requirements, analysis of hazards and risks, past performance, and effectiveness of contractor assurance systems for organizations, facilities, operations, and programs;

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- ii) "For cause" reviews in addition to scheduled assessments when circumstances warrant (e.g., when events indicate degradation of a system);
- iii) Assessments in support of facility startup and restart, and review and approval of required program documents (e.g., authorization basis documents);
- iv) Assessments of the site qualification standard programs, training programs, and individual training and qualifications as they relate to environment, safety, and health; safeguards and security; emergency management; cyber security; and business practices; and
- g) Assessments of the adequacy of the contractor assurance system that include:
 - i) Verification that the contractor assurance systems address all organizations, facilities, and program elements.
 - ii) Assessments of implementation and effectiveness of contractor assurance systems for environment, safety, and health; safeguards and security; emergency management; cyber security; and business practices systems and their sub elements (e.g., radiation protection within environment, safety, and health), by examining the following:
 - (a) assessment methods (e.g., whether sufficient emphasis is placed on observation of work activities);
 - (b) the frequency, breadth, and depth of self-assessments;
 - (c) line management involvement in self-assessments;
 - (d) evaluators' technical expertise and qualifications;
 - (e) the number and nature of findings identified; and
 - (f) The degree of rigor applied to self-assessment.
 - iii) Regular assessments of the effectiveness of contractor issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback).
 - iv) Evaluation of contractor processes for communicating information, including dissenting opinions, up the management chain.
 - v) Verification that contractor corrective actions have been implemented and are effective in resolving deficiencies and preventing recurrence.
 - vi) Regular assessments of the contractor's reporting processes and performance to confirm that contractors meet reporting requirements for events and incidents of security, environment, safety, health, cyber security, and emergency management concern and take effective actions to prevent recurrence of deficiencies or findings; and
 - vii) For sites where contractors report the results of performance measures to DOE (e.g., as part of a contractual provision), regular assessments of the effectiveness of processes for collecting, evaluating, and reporting performance data to ascertain the accuracy, completeness, and validity of the performance measures.
- h) Evaluations of contractor performance to ensure provisions of the contract are met, that include:
 - i) Periodic evaluation of the effectiveness of contractor management programs, including environment, safety, and health; safeguards and security; cyber security; emergency management; and business processes. Poor performance in these areas must have significant negative consequences on evaluations and fee determination. In accordance with contract provisions, evaluations must be used to reward significant accomplishments and/or performance improvements.
 - ii) Evaluations that are based on an analysis of the results of relevant information obtained or developed during the performance period, including contractual performance measures and objectives, DOE line management oversight, contractor

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self-assessments, operational history/events, and reviews by DOE and external organizations.

- iii) Evaluations using the results of quantitative performance indicators and measures may be considered if assessed in combination with other assessment results in recognition that such indicators provide only a partial indication of system.
- i) Do the DOE field element line management oversight programs and processes described above for performance assessment and monitoring of the scope and implementation of the contractor's programs and activities, require:
 - i) Determination of the overall scope, content and frequency of assessments included in the coordinated DOE Headquarters and field element line management oversight program to be based on the assessed effectiveness of DOE line management and contractor assurance systems, the hazards at the site/activity, and the degree of risk involved;
 - ii) Establishment and implementation of a minimum DOE line management baseline oversight program (which includes planned, coordinated and scheduled assessments by DOE Headquarters and/or field elements) that focuses resources on selected assessments, operational awareness activities, performance measure monitoring and improvement, and assessment of assurance systems to enable DOE line management to understand the hazards and risks of activities;
 - iii) Increasing oversight activity frequency and/or depth based on performance deficiencies or events, or decreasing frequency and/or depth to reflect sustained effective site performance;
 - iv) Conducting more frequent assessments focusing on areas needing improvement in site programs, management systems, or assurance systems (e.g., insufficient rigor or comprehensiveness in existing systems);
 - v) Conducting, as appropriate, "for cause" reviews, reviews pursuant to other requirements in this Order, discretionary assessments, or for support to field elements during assessments;
 - vi) Coordination of assessment activities with site assurance system activities to promote efficient use of resources while maintaining an adequate baseline oversight program that includes sufficient standalone assessments of contractor management and assurance systems and site programs;
 - vii) Regular assessment of site assurance systems to determine the appropriate level of overlap and redundancy of DOE field element line management oversight;
 - viii) Consideration of the results of external organization reviews and the effectiveness of assurance systems in determining DOE line management oversight priorities and the scope and frequency of oversight activities, while still implementing the defined minimum baseline oversight process;
 - ix) Maintaining a balance between reviews of documentation (e.g., plans, procedures, and records) and adequacy of implementation through performance tests and observation of actual work activities at the facilities; and,
 - x) Maintaining a similar balance between evaluations of systems (such as the DOE integrated safety management system and integrated safeguards and security management system), programs (e.g., radiation protection), facilities, and implementation of individual elements of those systems (e.g., specific work activities)?
- j) Do DOE field element line management oversight programs require monitoring and self-assessment of DOE field element line management programs and activities, including requirements for:

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- i) A structured, documented self-assessment program to confirm compliance with DOE requirements for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations.
- ii) Establishment and implementation of oversight processes for monitoring and ensuring continuous improvement in internal operations and required activities, such as reviewing and approving safety analysis reports and security plans, performing emergency management functions, adjudicating security clearances, implementing computer security programs at DOE office buildings, operating classified and sensitive information identification and protection programs, and operating employee concerns programs and other such functions?
- iii) Performance of self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, facility representative programs, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met.
- iv) Adjusting the frequency of assessments to be commensurate with the hazards and risks related to the activity being assessed. Continuous improvement mechanisms (e.g., corrective action processes) must be in place to improve the effectiveness and efficiency of oversight programs and site operations.
- k) Do DOE field element line management oversight programs and processes require results of oversight activities to be appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
 - i) Are structured and rigorous processes required for validating the accuracy of information collected during assessments?
 - ii) Are deficiencies in programs or performance identified during assessment activities required to be communicated to appropriate managers for resolution through a structured issues management process?
 - iii) Are dissenting opinions required to be documented and appropriately communicated with assessment results?
 - iv) Are processes for resolution of disputes about oversight findings and other significant issues established, including where necessary, approved processes for interpretation of requirements?
 - v) Are effective processes established for independent technical reviews of significant issues?
 - vi) Are effective processes established for communicating line management oversight results and other issues up and down the DOE line management chain, using a graded approach based on the hazards and risk?
 - vii) Are findings required to be tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
 - viii) Is DOE line management required to verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed?
 - ix) Are deficiencies required to be analyzed both individually and collectively to identify causes and prevent recurrences?
- l) Are DOE field element line management oversight programs and the annual schedule of planned assessments and focus areas documented and approved?
- m) Do DOE field element line management oversight programs define the process for modifications of the annual oversight activity schedule and for DOE line management approval in response to changing circumstances?

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- n) Has an effective employee concerns program been established and implemented that encourages the reporting of employee concerns and provides thorough investigations and effective corrective actions and recurrence controls?
 - o) Are continuous improvement mechanisms (e.g., corrective action processes) in place to improve the effectiveness and efficiency of oversight programs and site operations?
 - p) If DOE Headquarters and field element line management oversight processes are implemented as written, would DOE Headquarters and field element line management maintain sufficient knowledge of site and contractor activities to make informed decisions about hazards, risks and resource allocation, provide direction to contractors, and evaluate contractor performance?
- 2) **Training & Qualification** – Are DOE field element staff adequately trained and qualified to perform assigned oversight activities?
- a) Has DOE line management defined the requirements for experience, knowledge, skills and abilities for personnel implementing the assurance system elements?
 - b) Has DOE line management established, maintained, and implemented appropriate qualification standards for personnel with oversight responsibilities?
 - c) Has DOE line management provided and ensured completion of appropriate training for personnel implementing the DOE field element line management assurance system elements?
- 3) **Implementation of Program Responsibilities** – Does DOE field element line management maintain sufficient knowledge of contractor programs and activities to make informed decisions about hazards, risks and resource allocation, to efficiently evaluate contractor performance, and to provide direction?
- a) Were the following assessments required by DOE O 226.1 performed; what were the results; how were the insights used; and how effective were the corrective actions?
 - i) Do DOE field element line management personnel regularly review the results of DOE Headquarters and contractor oversight activities to maintain awareness of site conditions and trends and to determine the effectiveness of DOE line management oversight processes?
 - ii) Does DOE field element line management periodically review established performance measures to ensure performance objectives and criteria are challenging and focused on improving performance in known areas of weakness?
 - iii) Does DOE field element line management (unless not formally delegated) annually review and approve contractor assurance system program descriptions updates?
 - iv) Does DOE field element initially approve and, thereafter, annually review and approve integrated safety management system description updates, unless approval authority is not delegated to the DOE field element?
 - v) Does DOE field element management regularly assess whether field elements are assessing site activities adequately; self-identifying deficiencies; and, taking timely and effective corrective actions?
 - vi) Does DOE field element line management regularly assess the effectiveness of field element issues management and corrective action processes, lessons learned processes, and other feedback mechanisms (e.g., worker feedback)?
 - vii) Does DOE field element line management evaluate field element processes for communicating information, including dissenting opinions, up the management chain?

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- viii) Does DOE field element line management regularly assess field element assurance systems to determine the appropriate level of overlap and redundancy with DOE headquarters and contractor assessment activities?
 - ix) Are the effectiveness of the site assurance system; the hazards at the site/activity; and, the degree of risk factors in determining the scope and frequency of the combined DOE Headquarters and field element line management oversight program assessment activities?
 - x) Do DOE organizations perform self-assessments of programmatic and line management oversight processes and activities (e.g., security surveys, personnel qualification standards, and training programs) to assess whether requirements and management expectations are met, and to identify opportunities for improvement?
 - xi) Are continuous improvement mechanisms (e.g., corrective action processes) in place to improve the effectiveness and efficiency of oversight programs and site operations?
 - xii) Do Central Technical Authorities (CTAs) periodically monitor, participate in and review the results of field oversight organization oversight and other information for high consequence nuclear operations to maintain operational awareness and to ensure the Department's nuclear safety policies and requirements are adequate and properly maintained?
 - b) Are managers, supervisors, and workers held accountable for assigned performance assurance responsibilities?
 - c) Are oversight program responsibilities appropriately implemented?
 - d) Are the coordinated DOE Headquarters and field element line management oversight programs effective in ensuring that site operations are performed safely, securely, and in compliance with applicable requirements?
- 4) **Oversight Results and Corrective Action Process** – Are the results of oversight activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are structured and rigorous processes used for validating the accuracy of information collected during assessments?
 - b) Are deficiencies in programs or performance identified during assessment activities communicated to appropriate management for resolution through a structured issues management process?
 - c) Are these deficiencies appropriately addressed in a timely manner?
 - d) Does DOE line management have effective processes for communicating line oversight results and other issues up and down the management chain?
 - e) Do the DOE line management oversight processes provide sufficient technical basis to allow senior DOE managers to make informed decisions?
 - f) Are findings tracked and resolved through structured and formal processes, including provisions for review of corrective action plans?
 - g) Does DOE line management verify that corrective actions are complete and performed in accordance with requirements before findings identified by DOE assessments or reviews are closed?
 - h) Are deficiencies analyzed both individually and collectively to identify causes and prevent recurrences?

Inspection Criteria #3: Contractor Assurance System - Contractor management has established a comprehensive and integrated contractor assurance system for ensuring the protection of the public, workers, environment and national security assets and to perform its

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business operations effectively through continuous improvement for environment, safety, and health; safeguards and security; cyber security; emergency management; and business operations. The contractor's assurance system programs and processes are in accordance with the policy and key elements outlined in DOE Policy 226.1, *Department of Energy Oversight Policy*, DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*, Attachment 2, quality assurance requirements (as stated in 10 Code of Federal Regulations (CFR) 830, Subpart A, or other applicable regulations), applicable DOE directives, and contract terms and conditions.

- 1) A program description document that fully details the programs and processes that comprise the contractor assurance system has been developed, approved by contractor management, and forwarded to DOE for review and approval. The program description is reviewed and updated annually and forwarded to DOE for review and approval.
- 2) The contractor assurance system includes assessment activities (self-assessments, management assessments, and internal independent assessments as defined by laws, regulations, and DOE directives such as quality assurance program requirements) and other structured operational awareness activities; incident/event reporting processes, including occupational injury and illness and operational accident investigations; worker feedback mechanisms; issues management; lessons-learned programs; and performance indicators/measures.
- 3) The contractor's assurance system monitors and evaluates all work performed under their contract, including the work of subcontractors.
- 4) Contractor assurance system data is formally documented and available to DOE line management. Results of assurance processes are periodically analyzed, compiled, and reported to DOE line management as part of formal contract performance evaluation.
- 5) Contractors have established and implemented sufficient processes (e.g., self-assessments, corporate audits, third-party certifications or external reviews, performance indicators) for measuring the effectiveness of contractor assurance system elements.
- 6) Requirements and formal processes have been established and implemented that ensure personnel responsible for managing and performing assurance activities possess appropriate experience, knowledge, skills and abilities commensurate with their responsibilities.

Inspection Activities for Inspection Criteria #3-#7: Review appropriate contractor directives, policies, program descriptions, procedures, instructions, guidance, and contractual requirements. Review assessment activity schedules for independent, management and other self-assessments and external reviews/inspections. Review assessment reports for adequacy in selected areas (environment, safety, and health; security surveys; performance assurance program performance tests; vulnerability assessment and planning processes; and, limited scope performance testing for physical security and protective forces). Interview contractor and subcontractor managers and staff to determine how assessments are planned and performed and how they are used to improve performance. Interview lessons learned coordinators, work planners, and training personnel and evaluate lessons learned program documentation, including procedures and records, to determine the adequacy of implementation of these programs. Review documentation related to deficiencies (e.g., procedures, completed assessments, employee concern case files, occupational injury and illness reports, operational incident/event reports (e.g., critique minutes), causal analyses and corrective action plans, verification/validation records, and effectiveness determinations). Review trend analysis and performance indicator reports and evaluate the analyses, conclusions, and any related corrective actions.

Inspection Lines of Inquiry (Contractor Assurance System):

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?

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- a) Does the contractor assurance system program description document (or equivalent) require and adequately describe a comprehensive and integrated set of processes and activities to identify and address program and performance deficiencies, and opportunities for improvement; provide the means and requirements to report deficiencies to the responsible managers and authorities; establish and effectively implement corrective and preventive actions; and, share lessons learned across all aspects of operations as specified in DOE O 226.1, Attachment 2?
 - b) Does the contractor assurance system include self-evaluations of compliance with applicable laws, regulations, national standards, DOE directives, and DOE-approved plans and program documents, site-specific procedures/manuals, criteria review and approach documents, contractual performance objectives, and other contractually mandated requirements?
 - c) Does the contractor assurance system require monitoring and evaluation of all work performed under their contracts, including subcontractors?
 - d) Has the contractor established processes and mechanisms, such as use of corporate audits, third party certifications, or external reviews in designing and implementing the contractor's assurance system for measuring the effectiveness of program elements?
 - e) Has the contractor defined their processes for review and communication to DOE management problems identified with DOE directives or site-specific requirements that conflict, are unclear, or are incomplete?
 - f) Has the program description document been approved by contractor management and DOE?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
- a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing the assurance system elements?
 - b) Has the contractor established, maintained, and implemented appropriate qualification standards for personnel with oversight responsibilities.
 - c) Has the contractor provided and ensured completion of appropriate training for personnel who manage and perform assurance functions must possess experience, knowledge, skills, and abilities commensurate with their responsibilities.
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
- a) Has the contractor monitored and evaluated all work performed under their contracts, including subcontractors?
 - b) Is DOE line management provided with unfettered access to facilities and contractor activities and to contractor assurance system data?
 - c) Does the contractor submit to DOE for annual review and approval a revised contractor assurance system program description document (or equivalent)?
- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are deficiencies in programs or performance identified during assessment activities communicated to appropriate management for resolution through a structured issues management process?
 - b) Are the results of assurance system processes periodically analyzed and reported to DOE in support of formal contract evaluations?

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Inspection Criteria #4: Contractor Assessment and Performance Measurement -

Contractor management has established a rigorous and credible assessment program that evaluates the adequacy of programs, processes, and performance on a recurring basis. Formal mechanisms and processes have been established for collecting both qualitative and quantitative information on performance, and this information is effectively used as the basis for informed management decisions to improve performance.

- 1) Line management has established and implemented a rigorous assessment program for performing comprehensive evaluations of all functional areas, programs, facilities, and organizational elements, including subcontractors, with a frequency, scope and rigor based on appropriate analysis of risks. The scope and frequency of assessments are defined in site plans and program documents, include assessments of processes and performance-based observation of activities and evaluation of cross-cutting issues and programs, and meet or exceed requirements of applicable DOE directives.
- 2) Rigorous self-assessments are identified, planned, and performed at all levels periodically to determine the effectiveness of policies, requirements, and standards and the implementation status.
- 3) Appropriate independent internal assessments are identified, planned, and performed by contractor organizations or personnel having the authority and independence from line management to support unbiased evaluations.
- 4) Line managers have established programs and processes to routinely identify, gather, verify, analyze, trend, disseminate, and make use of performance measures that provide contractor and DOE management with indicators of overall performance, the effectiveness of assurance system elements, and identification of specific positive or negative trends. Approved performance measures provide information that indicates how work is being performed and are clearly linked to performance objectives and expectations established by management.
- 5) Line managers effectively utilize performance measures to demonstrate performance improvement or deterioration relative to identified goals, in allocating resources and establishing performance goals, in development of timely compensatory measures and corrective actions for adverse trends, and in sharing good practices and lessons learned.

Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3

Inspection Lines of Inquiry (Contractor Assessment and Performance Measurement):

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
 - a) Has the contractor established appropriate, formal processes and procedures for conducting self-assessments and internal independent assessments of all programs, processes, and performance of facilities, systems, and organizational elements, including subcontractors?
 - b) Do these processes and procedures adequately detail the requirements for all types of assessment and performance measurement activities, such as management walkthroughs, surveillance and inspection activities, formal assessments and reviews, and post-job reviews?
 - c) Have guidance and support tools such as checklists, templates, and databases been provided?
 - d) Has the contractor established appropriate and formal processes and procedures for identifying, monitoring, analyzing data measuring the performance of facilities,

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- programs, and organizations and for identifying and implementing needed actions and opportunities for performance improvement?
- e) Do self-assessment processes encourage and facilitate the involvement of workers, supervisors, and managers to develop assessment skills and abilities?
 - f) Have adequate processes, procedures, and guidance been developed to ensure an effective performance indicator program?
 - g) Have the appropriate performance indicators and parameters been selected to effectively measure performance and identify adverse trends in a timely manner to ensure prompt mitigation and corrective actions?
 - h) Do assessment and performance measurement program procedures provide appropriate linkages to the issues management, corrective action, and reporting processes?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
- a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing assessment and performance measurement activities?
 - b) Has the contractor provided and ensured completion of appropriate training for personnel implementing assessment and performance measurement activities?
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
- a) Does line management routinely monitor and observe the activities of their workforce to ensure activity, facility, and institutional requirements and management expectations are met?
 - b) Are formal, rigorous, effective self-assessments conducted at all levels and in all organizations to determine the adequacy of programs and performance and identify deficiencies needing correction and areas and means for performance improvement?
 - c) Are institutional programs periodically evaluated for adequacy, including assessment of implementation by line and support organizations?
 - d) Are appropriate and effective independent assessments performed, including evaluations of assurance system effectiveness?
 - e) Is the subject, scope, and frequency of self- and independent assessments based on a formal analysis that addresses elements such as risk; regulatory or standards based requirements; type and complexity of work activities, facilities, and conditions; past performance; trend analyses; or management concerns?
 - f) Have subcontractors implemented appropriate and effective self-assessment programs and is the contractor's subcontractor oversight program effectively evaluating performance, providing feedback to subcontractors, and ensuring correction of process and performance deficiencies?
 - g) Are assessment activities sufficiently performance based, including an appropriate focus on observation of work, inspection of field conditions, review of evidence of compliant and effective performance, and effectiveness of corrective actions for previously identified deficient conditions?
 - h) Is the performance indicator program periodically reviewed to ensure the most appropriate sets of data and data analysis parameters are being employed?
 - i) Is performance data being sufficiently analyzed, with conclusions drawn and presented to management, and needed actions identified and taken?
 - j) Are the processes and performance of assessment and performance measurement programs evaluated for effectiveness on an appropriate frequency?

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- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
- a) Are the results of these management awareness activities documented and evaluated to identify needed process and performance improvements, initiate effective corrective actions, and identify lessons learned to be shared with others?

Inspection Criteria #5: Contractor Event Reporting - Contractor management has implemented formal programs to identify issues and report, analyze, and address operational events, accidents and injuries.

- 1) Formal programs and processes have been established to identify issues and report, analyze, and address operational events, accidents, and injuries. Events, accidents, and injuries are promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned in accordance with applicable DOE directives (e.g., M 231.1-2, M 231.1-1A, O 151.1A, O 225.1A, N 471.3, O 5480.19, etc.)
- 2) Reporting of operational events, accidents, and injuries are conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions. Trending analysis of events, accidents, and injuries are performed in accordance with structured/formal processes and applicable DOE directives (e.g., M 231.1-2., etc).

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Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3

Inspection Lines of Inquiry (Contractor Event Reporting):

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
 - a) Have appropriate, formal processes and procedures been established to detail the requirement for the identification, documentation, investigation, analysis, reporting, and management of issues for operational events (including non-reportable incidents), accidents, occupational injuries and illnesses, and quality assurance and nuclear safety issues?
 - b) Do processes require timely and appropriate identification, documentation, and local notification of operational events, incidents, accidents, occupational injuries and illnesses and nuclear safety issues?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
 - a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing assessment and performance measurement activities?
 - b) Has the contractor provided and ensured completion of appropriate training for personnel implementing event, accident, occupational injury and illness, and nuclear safety issue management activities?
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
 - a) Is reporting of operational events, accidents, occupational injuries and illnesses, and nuclear safety issues conducted in accordance with applicable nuclear, security, environment, occupational safety and health, and quality assurance requirements, applicable DOE directives, and contract terms and conditions?
 - b) Are operational events, accidents, occupational injuries and illnesses and nuclear safety issues rigorously investigated in accordance with formal issues management processes that identify and report as required by directives?
 - c) Are operations and engineering organizations, including support organizations, appropriately involved in the identification, assessment, and development of corrective action plans of reportable events, accidents, and occupational injuries and illnesses?
 - d) Are the processes and performance of event, accident, occupational injury and illness and nuclear safety issue management properly evaluated for effectiveness on an appropriate frequency?
- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
 - a) Are immediate and compensatory measures to operational events, accidents, occupational injuries and illnesses and nuclear safety issues sufficiently defined and taken as part of line management initial response to operational events, and in the development of follow-on corrective action plans?

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- b) Are trending analysis of events (including non-reportable incidents), accidents, and occupational injuries and illnesses performed in accordance with structured/formal processes and applicable DOE directives?
- c) Are events, accidents, and injuries and illnesses promptly and thoroughly reported and investigated, including the identification and resolution of root causes and management and programmatic weaknesses, and distribution of lessons learned?

Inspection Criteria #6: Contractor Lessons Learned And Worker Feedback - Contractor management has established formal programs to communicate lessons learned during work activities, process reviews, and incident/event analyses to potential users and applied to future work activities.

- 1) Formal processes are in place to identify applicable lessons learned from external and internal sources and any necessary corrective and preventive actions, disseminate lessons learned to targeted audiences, and ensure that lessons learned are understood and applied.
- 2) Formal programs and processes have been established and implemented to solicit feedback from workers and work activities on the effectiveness of work definition, hazard analyses and controls, and implementation for all types of work activities, and to apply lessons learned.
- 3) Line managers effectively identify, apply, and exchange lessons learned with the rest of the DOE complex. Lessons learned identified by other DOE organizations and external sources are reviewed and applied by line management to prevent similar incidents/events.
- 4) Employee concerns related to management of DOE and NNSA programs and facilities are promptly and thoroughly reported and investigated in accordance with applicable DOE directives (e.g., O 442.1A).

Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3

Inspection Lines of Inquiry (Contractor Lessons Learned):

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
 - a) Has the contractor established and implemented a formal program that screens lessons learned from external sources for local applicability and evaluates site conditions and processes to determine if actions are needed to apply applicable lessons learned and ensure that actions deemed necessary are implemented?
 - b) Has the contractor established and implemented processes that identify, document, and disseminate lessons learned from investigations of incidents/accidents and occupational injuries, including near misses, and from work activities that warrant communication to other organizations?
 - c) Do site processes require/encourage formal reviews or documented feedback from performers and supervision after completion of maintenance, construction, and experimental activities, or operational evolutions?
 - d) Has the contractor established tools and services to encourage and facilitate the documentation and communication of lessons learned such as templates, guidance documents, and subject matter expert assistance?
 - e) Do work planning and training processes include triggers to prompt or record the research and application of potentially applicable lessons learned?
 - f) Has the contractor established tools that encourage and facilitate the research of lessons learned, such as a searchable database and links to external source sites?
 - g) Has an effective employee concerns program been established and implemented that encourages the reporting of employee concerns and provides thorough, documented

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investigations, with timely and effective corrective actions and recurrence controls that are tracked to completion?

- h) Are confidentiality and anonymity protections and rights to appeal clearly communicated to employees and effectively implemented during the resolution of concerns?

- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
 - a) Has the contractor provided and ensured completion of appropriate training on the expectations, requirements and processes for the development, identification, sharing, and application of lessons learned?
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
 - a) Have work planners, supervisors, managers, and training staff subscribed to the DOE lessons learned database?
 - b) Are process and performance deficiencies identified through lessons learned processes managed in accordance with the formal issues management and corrective action tracking system process(es)?
 - c) Are the processes and performance for lessons learned and employee concerns programs properly evaluated for effectiveness on an appropriate frequency?
- 4) **Oversight Results and Corrective Action Process** – Are the results of Contractor Assurance System activities appropriately validated, documented, communicated, classified, evaluated, tracked and resolved?
 - a) Are innovative, successful practices shared as well as negative lessons learned?
 - b) Are internally generated lessons learned evaluated for their potential value to other DOE facilities and shared with the DOE complex as appropriate?
 - c) Are lessons from experiences within and outside the contractor organization effectively communicated and used in work planning and training?
 - d) Do safety committees or other boards provide effective feedback, including reviewing performance, analyzing data for lessons learned, and assigning and formally tracking action items for improvement?
 - e) Is contractor facility management collecting and disseminating to their staff information, including both lessons learned and good practices from operational events related to their facilities and similar DOE facilities?
 - f) Are the resolutions of employee concerns communicated to concerned individuals with a solicitation of concurrence and identification of appeal mechanisms?

Inspection Criteria #7: Contractor Issues Management - Contractor management has established a comprehensive, structured issues management system that provides for the timely and effective resolution of deficiencies.

- 1) Program and performance deficiencies, regardless of their source, are captured in a system or systems that provide(s) for effective analysis, resolution, and tracking. Issues management system elements include structured processes for determination of risk, significance, and priority of deficiencies; evaluation of scope and extent of condition; determination of reportability under applicable requirements; identification of root causes; identification and documentation of corrective actions and recurrence controls to prevent recurrence; identification of individuals/organizations responsible for corrective action implementation; establishment of milestones based on significance and risk for completion of corrective

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actions; tracking progress; verification of corrective action completion; and validation of corrective action implementation and effectiveness.

- 2) Issues management processes include mechanisms to promptly identify the potential impact of a deficiency and take timely actions to address conditions of immediate concern, including stopping work, system shutdown, emergency response, reporting to management, and compensatory measures pending formal documentation and resolution of the issue.
- 3) Processes for analyzing deficiencies, individually and collectively, have been established that are designed to effectively identify programmatic or systemic issues. Line management effectively monitors progress and optimizes the allocation of assessment resources in addressing known systemic issues.
- 4) Processes for communicating issues up the management chain to senior management have been established and based on a graded approach that considers hazards and risks. Line management receives periodic information on the status of identified deficiencies and corrective actions and holds organizations and individuals accountable for timely and effective completion of actions. Line management has executed graded mechanisms such as independent verification and performance-based evaluation to ensure that corrective action and recurrence controls are timely, complete, and effective. Closure of corrective actions and deficiencies are based on objective, technically sound, and verified evidence. The effectiveness of corrective actions is determined on a graded basis and additional actions are completed as necessary.

Inspection Activities for Inspection Criteria #3-#7: See description after Inspection Criteria #3

Inspection Lines of Inquiry (Contractor Issues Management):

- 1) **Oversight Program** – Are the processes which constitute the Contractor Assurance System formal and documented and, when taken together, meet the requirements of DOE O 226.1?
 - a) Have comprehensive processes and procedures been established and implemented that provide for the consistent, timely, and effective collection, analysis, and resolution of process and performance deficiencies and other issues, regardless of their source? Are separate processes and tracking tools compatible and sufficiently integrated to facilitate consistent implementation, trending, and performance measurement?
 - b) Does the issues management program include processes (including ORPS and PAAA) and tools that address the following essential elements:
 - i) Determining risk, significance and priority?
 - ii) Evaluating the scope and extent of condition or deficiency?
 - iii) Determining and ensuring reportability in accordance with DOE or regulatory requirements?
 - iv) Analyzing for root and contributing causes using a graded approach?
 - v) Development of effective corrective action plans that include recurrence controls that address identified root and contributing causes?
 - vi) Assigning and changing ownership of issues, action plan development, and corrective action implementation?
 - vii) Milestones for completion of corrective/preventive actions and requirements for revisions of milestone dates?
 - viii) Tracking of progress of actions?
 - ix) Verification that actions are complete?
 - x) Validation of the effectiveness of corrective/preventive actions using a graded approach?

**CRADs Developed by the Office of Independent Oversight (SP-44/SSA) and
includes Lines of Inquiry Related to 226.1 March 2006**

- xi) Ensuring that the status of issues management is communicated to management and individuals and organizations are held accountable for performing their assigned responsibilities for managing issues?
- c) Have formal policies and processes been established and communicated for rapidly determining if deficiencies or conditions pose immediate and/or significant risk of harm to workers, the public, or the environment and provide for interim actions such as stopping work, system shutdown, or other compensatory measures pending formal processing of the issue?
- 2) **Training & Qualification** – Are personnel implementing Contractor Assurance System processes adequately trained and qualified to perform assigned oversight activities?
 - a) Has the contractor defined the requirements for experience, knowledge, skills and abilities for personnel implementing issues management activities?
 - b) Has the contractor provided and ensured completion of appropriate training for personnel implementing issues management activities?
- 3) **Implementation of Program Responsibilities** – Are Contractor Assurance System responsibilities appropriately implemented?
 - a) Are issues (including lower level deficiencies) periodically formally analyzed collectively to identify adverse trends or areas of weakness that require corrective or preventive actions?
 - b) Are adverse trends and needed corrective actions formally documented and addressed using the formal issues management process?
 - c) Are the processes and performance for the issues management program properly evaluated for effectiveness on an appropriate frequency?
- 4) **Program Effectiveness** – Are the Contractor Assurance System processes effective in ensuring that site operations are performed safely, securely, and in compliance with applicable requirements?
 - a) Are the above issues management program elements being effectively implemented?